A.3 Waste Analysis Plan

MICHIGAN DISPOSAL WASTE TREATMENT PLANT (MDWTP)
MID 000 724 831
2016 PERMIT APPLICATION

FORM EQP 5111 ATTACHMENT TEMPLATE A3
WASTE ANALYSIS PLAN (WAP)

This document is an attachment to the Michigan Department of Environmental Quality's *Instructions for Completing Form EQP 5111, Operating License Application Form for Hazardous Waste Treatment, Storage, and Disposal Facilities.* See Form EQP 5111 for details on how to use this attachment.

The administrative rules promulgated pursuant to Part 111, Hazardous Waste Management, of Michigan's Natural Resources and Environmental Protection Act, 1994 PA 451, as amended (Act 451), being R 299.9504, R 299.9508, and R 299.9605, and Title 40 of the Code of Federal Regulations (CFR) §§270.14(b)(3) and 264.13(b) and (c), establish requirements for WAPs for hazardous waste management facilities. All references to 40 CFR citations specified herein are adopted by reference in R 299.11003.

This license application template addresses requirements for a WAP for the hazardous waste management units and the hazardous waste management facility for the *Michigan Disposal Waste Treatment Plant (MDWTP)* and *Wayne Disposal Inc. (WDI)* facility. All activities associated with the WAP will be conducted at the *MDWTP and WDI, Belleville* facility.

Ensure that all samples collected for the purposes of waste characterization are collected, transported, analyzed, stored, and disposed by trained and qualified individuals in accordance with the Quality Assurance/Quality Control (QA/QC) Plan. The QA/QC Plan should, at a minimum, include the written procedures outlined in "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods," U.S. Environmental Protection Agency (EPA) Publication No. SW-846, Third Edition, Chapter 1 (November 1986), and its updates.

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A3.A COMMERCIAL FACILITY

Michigan Disposal Waste Treatment Plant (MDWTP) and *Wayne Disposal Inc. (WDI)* are commercial facilities that receive wastes generated off site. *MDWTP and WDI* have developed this shared WAP to ensure that only wastes that are authorized and properly characterized are received at the facility. All generators will be required to provide a waste characterization, including chemical analysis when appropriate. Waste screening will be conducted on every shipment of waste to ensure that the waste conforms to the waste profile for the generator and information on incoming manifests and to ensure that the waste is properly managed within the facility.

All analysis performed pursuant to this WAP will be consistent with the QA/QC Plan maintained at the facility. All samples of the facility's waste being characterized will be collected, transported, stored, and disposed by trained and qualified individuals in accordance with the QA/QC Plan.

In accordance with R 299.9609 and 40 CFR §264.73 and Part 264, Appendix I, *MDWTP and WDI* will retain all records and results of waste determinations performed as specified in 40 CFR §§264.13, 264.17, 264.314, 264.1034, 24.1063, 264.1083, 268.4(a), and 268.7 in the facility operating record until closure of the facility.

A3.A.1 INITIAL WASTE CHARACTERIZATION REQUIREMENTS FOR GENERATORS
[R 299.9605(1) and R 299.9504(1)(c) and 40 CFR §264.13(b)(5)]

MDWTP and WDI will require the following waste profile information for initial waste shipments from all off-site generators prior to shipment: at minimum the information required in Figure A3.A.1.

Attachment A2 Chemical and Physical Analyses describes what will be required to complete an approval.

In addition to the waste profile information submitted by the generator, *MDWTP/WDI* will:

☐ Require submittal of a representative waste sample

☐ Conduct an audit of the generator facility

☐ Review industry literature to identify typical waste streams

☒ Other: As needed samples may be requested to confirm acceptability

A3.A.1(a) Generator Waste Characterization Discrepancies
[R 299.9605(1) and R 299.9504(1)(c) and 40 CFR §§264.13(a)(3) and (4), 264.13(b)(c), and 264.72]

Waste streams are reviewed with respect to waste characterization requirements and the Land Disposal Restrictions (LDR) requirements in 40 CFR Part 268. Waste generators or individuals with the authority to make characterization and LDR decisions must certify information provided is representative, true and accurate. The analytical data, waste type, process description, waste chemical and physical characteristics provide the facility with sufficient information to decide if the waste can be accepted or if additional data is required before a decision can be reached. If the generator does not provide sufficient information, the generator or their representative is contacted and requested to provide further information before the approval process will continue.

The profile, with the supporting information as required, forms the basis of information upon which the facility determines if the waste can receive pre-acceptance approval for disposal at WDI or storage, transshipment and treatment at MDWTP. When it is determined that a waste stream can be safely handled at the facility in accordance with the operating license requirements, it is assigned a unique identification number. An approval letter is sent to the generator, serving as notification that the waste as represented may be shipped to the facility, and that the facility has the appropriate permit(s) to accept the waste. All approval files are maintained in the facility operating record in an electronic, paper or other archival form. Approval files with no shipments before expiration will not be kept in the facility operating record.

A3.A.1(b) Subsequent Waste Shipment Procedures
[R 299.9605(1) and R 299.9504(1)(c) and 40 CFR §§264.13(a)(3) and 264.13(b)(4)]

The facility requires that the profile, supporting information, and/or documentation be updated whenever any one of the following occur:

- There has been a change in the process generating the waste.
- Inspection of a waste shipment reveals that the waste does not meet the description/classification of the approval values.

The initial evaluation of waste from each generator will be reviewed or repeated at least annually to ensure that the information provided is accurate and up-to-date.

A3.A.1(c) Additional Waste Analysis Requirements
[R 299.9605(1) and R 299.9504(1)(c) and 40 CFR §§264.13(b)(6) and 264.13(c)(3)]

MDWTP and WDI will review the waste profile information to ensure that the facility is authorized to receive the waste, and can manage the waste in compliance with the following:

☒ R 299.9605 and 40 CFR §264.17	General requirements for ignitable, reactive, or incompatible wastes [Template A3, Section A2.B.1]
☒ R 299.9605 and 40 CFR §264.314	Special requirements for bulk and containerized liquids [Template A2, Section A2.A.1(c)]
☐ R 299.9630 and 40 CFR §264.1034(d)	Test methods and procedures (Subpart AA) [Template A3, Section A3.A.2(c)]
☐ R 299.9631 and 40 CFR §264.1063(d)	Test methods and procedures (Subpart BB) [Template A3, Section A3.A.2(c)]
☒ 40 CFR §264.1083	Waste determination procedures (Subpart CC) [Template A3, Section A3.A.2(c)]
☒ R 299.9627 and 40 CFR §268.7	Waste analysis and record keeping LDR requirements [Template A3, Sections A3.A.3, A3.B.3 and A3.C]

☒ R 299.9228 Universal waste requirements
[Template A2, Section A2.A.1]

FIGURE A3.A.1
INFORMATION THAT MUST BE SHOWN ON A GENERATOR'S WASTE PROFILE FORM

Waste Generator Information:

- Generator Name
- Address
- Phone Number

Waste Stream Information:

- Waste description
- Description of generating process
- USEPA and/or Michigan Hazardous Waste Codes
- Hazardous and toxicity characteristics
- Constituents of concern
- Physical and chemical characteristics

Generator Certification:

- Written or electronic signature from individuals authorized to make waste characterization decisions certifying information provided is representative, true and accurate.

A3.A.2 WASTE ACCEPTANCE PROCEDURES

[R 299.9605(1) and R 299.9504(1)(c), and 40 CFR §§264.13(c), 264.72(a) and (b), and 264.73(b)]

Waste shipments arrive at the facility in the following containers:

☒ Drums	☒ Totes	☒ Tanker trucks
☒ Carboys	☒ Wrangler box	☒ Filter bags
☒ Roll-off boxes	☒ Vacuum trucks	

☒ Other: Dump trailer, Flo- bin, Cubic yard boxes, etc.
***All container types cannot be accounted for. Generators are responsible for ensuring waste is properly packaged for transportation. US Ecology does not have any container type restrictions in order to accommodate all waste types that may be generated.*

MDWTP/WDI will perform all of the following tasks on waste received from off-site generators:

- Review paperwork
- Visually inspect the waste as required
- Perform waste screening/fingerprint analysis of waste as required

Discrepancy notification will be made to the generator if the review process reveals inconsistencies with the paperwork or the waste. Once discrepancies are resolved the received waste will be accepted for treatment and disposal. If the discrepancy cannot be resolved, received waste will be rejected to the generator or an alternate facility.

A3.A.2(a) Review Paperwork

[R 299.9605(1) and R 299.9504(1)(c), and 40 CFR §§264.13(c), 264.72(a) and (b), and 264.73(b)]

MDWTP/WDI will review all shipment paperwork, including manifests and LDR notifications, before any wastes are accepted by the facility. *MDWTP/WDI* will review all paperwork for completeness. In addition, the manifest and LDR notification will be compared for consistency. The manifest and LDR will also be compared to the waste profile and analytical information provided by the generator and to the waste shipment to ensure the accuracy of information provided on shipment paperwork. The manifest will also be compared to the number of containers, the volume, and/or the weight of the waste in the shipment. All discrepancies will be resolved before treating or disposing of the waste.

A3.A.2(b) Visual Inspection of Waste

[R 299.9605(1) and R 299.9504(1)(c) and 40 CFR §264.13(c)]

MDWTP and WDI will visually inspect a minimum of one container and up to a maximum of *10* percent of the containers from each unique approval. The contents of the container will be visually inspected for the following:

☒ Color ☒ pH (paper) ☒ Physical State ☒ Consistency

Visual observations will be recorded and compared to the profiled information. All discrepancies will be resolved before treating or disposing of the waste.

A3.A.2(c) Waste Screening/Fingerprinting
[R 299.9605(1) and R 299.9504(1)(c) and 40 CFR §§264.13(b)(14) and 264.13(c)(2)]

Table A3.A.1 lists the waste analysis procedures, including screening parameters for each hazardous waste, the rationale for the selection of these parameters, test methods that will be used to test for these parameters, the appropriate reference, whether the waste is specified in R 299.9216, the frequency of waste screening, and the rationale for the frequency.

A3.A.2(d) Sampling Methods and Frequency
[R 299.9605(1) and R 299.9504(1)(c) and 40 CFR §§264.13(b)(14) and 264.13(c)(2)]

The sampling methods that will be used to obtain a representative sample of the waste to be analyzed and the sampling equipment and rationale are summarized in Table A3.A.2. The results of the waste screening/fingerprint analysis will be compared to the waste profile information and analytical results (if applicable) provided by the generator during the initial waste characterization process. The outside container of inner laboratory pack containers will be 100 percent visually inspected. Containers of personal protective equipment (PPE) or debris will undergo visual inspection. All discrepancies will be resolved before treating or disposing of the waste.

USEPA SW-846 will be followed, whenever possible, when choosing sampling equipment and methodologies. If a method is not provided in USEPA SW-846, then a different method will be used as indicated Table A3.A.2. All equipment used in the collection of waste samples will either be disposable (e.g., scoops or container thieves) or sufficiently cleaned to remove observable contamination prior to sampling.

Incoming Waste
Sampling equipment is constructed of non-reactive materials. Care is taken in the selection of the sampler to prevent cross-contamination of the sample and to ensure compatibility of materials.

Non-bulk containers to be sampled will be determined using www.random.org or an equivalent method. Except as exempted below, a grab sample will be taken from 10% of the total number of containers for each hazardous waste stream. The grab samples for an individual waste stream will then be composited for a single sample analysis. Except those exempted below, each incoming bulk waste stream will have a sample collected from each vehicle.

Sampling is performed for each waste in a manner that ensures the samples are as representative as possible under the conditions of the sampling event. All bulk and containerized hazardous waste loads will be sampled prior to treatment or disposal. Exceptions for the requirement of a sample include the following waste types:

- On-site generated waste
- Articles, equipment, clothing (such as personal protective equipment (PPE)) contaminated with chemicals;
- Empty containers. Containers are considered "empty" according to the criteria specified in R299.9207;
- Asbestos-containing waste;
- Spent activated carbon, filters from inside tanks, ion-exchange resins, molecular sieves, filters/ cartridges;
- Debris and demolition wastes (40 CFR 268);
- Chemical-containing devices/articles, such as cathode ray tubes (CRTs), fluorescent lights, batteries;

- Discarded, off-specification, or out-dated commercial products.
- Wastes from food or animal processing;
- Animal feces;
- Non-putrescent medical waste that has been decontaminated or is not required to be decontaminated but is packaged in the manner required under part 138 of the public health code, 1978 PA 368, MCL 333.13801 to 333.13831 in order to land dispose.
- Septage or sewer treatment plant sludge from domestic users;
- Tanks (whole or cut);
- Equipment, machinery, pumps, piping, etc.;
- Waste potentially capable of causing detectable odor at the facility property line;
- Waste that by its hazardous nature may require more protective PPE. Examples include but are not limited to beryllium, hydrofluoric acid, and arsenic pentoxide;
- Waste streams approved by MDEQ on a case-by-case basis.

For wastes from which no samples will be taken, a visual inspection will be performed to determine if the waste resembles the description provided in the approval. Waste streams that may cause an air quality or safety concern, such as the examples provided above, will not be opened for visual inspection. However, during the pre-approval process MDWTP and WDI will require certification that acceptance criteria are met.

For some waste streams, it may be necessary to conduct the weight measurement and/or waste screening at an off-site location, such as the site of generation. These activities are performed by individuals trained on the WAP procedures that will be utilized. The results of the inspection and testing must be transmitted to the Receiving Department prior to the waste being treated or disposed (i.e. with the waste shipment or before). For these waste streams, a description of the off-site testing will be maintained on file at the facility

Treatment Tanks
Treated, stabilized waste will be sampled from the MDWTP treatment tanks in order to verify that the waste meets the LDRs prior to land disposal with the exception of microencapsulated and macroencapsulated debris. Samples of treated, stabilized waste will be collected from random vertical and horizontal locations.

A grab sample will be collected from a random vertical and horizontal location using a backhoe to reach the selected sampling point, collecting the sample from the backhoe bucket with a disposable scoop or cup. The sample is then taken to the laboratory for analysis.

A3.A.3 Procedures to Ensure Compliance with Land Disposal Restrictions (LDR) Requirements
[R 299.9627 and 40 CFR, Part 268]

All shipments of wastes subject to LDR received at the facility will be accompanied by appropriate generator notification and LDR notification in accordance with R 299.9627 and 40 CFR §268.7. The LDR notification accompanying generator wastes will be reviewed, and any discrepancies in the LDR notification and the associated manifest, analytical records, or Waste Profile Form will prevent treatment or disposal unless additional, satisfactory, clarifying information is provided by the generator. All information obtained to document LDR compliance will be maintained in the facility operating record until closure of the facility.

If the facility receives a shipment of waste without LDR notification, or a notification with incorrect or incomplete information, a representative will be notified in order to resolve the discrepancy. If a resolution cannot be obtained waste may not be treated or disposed.

In accordance with the LDR regulations, wastes with concentration-based treatment standards must be evaluated to determine if applicable constituent concentration levels have been attained. This can be accomplished by either (1) testing the waste or (2) using knowledge (such as information provided on the waste characterization form, knowledge of the process or materials used to produce the waste, or knowledge of an effective treatment recipe) when appropriate, to determine whether the treated waste meets the applicable LDR treatment standards specified in R 299.9627 and 40 CFR §§268.41-43 or alternative treatment standards specified in §§268.44-49. All analytical results will be maintained in the facility operating record until closure of the facility. Wastes that are determined by one of the aforementioned methods to meet treatment standards as specified in R 299.9627, 40 CFR §268.41-43 or §§268.44-49 will be land disposed.

MDWTP treats wastes that require treatment to comply with the LDRs using treatment methods such as stabilization, encapsulation, neutralization, deactivation, oxidation, and/or reduction using such treatment reagents as inorganic binders (e.g., cement, fly ash, kiln dust), organic binders (e.g., activated carbon), ferrous sulfate, ferric chloride, sodium sulfide, acids, bases, oxidizers and/or reducing agents. Treatment reagents may be commercially available materials, other untreated waste (e.g., an acid waste used to treat a base waste and vice versa), and/or treated waste (e.g., a stabilized waste meeting LDRs used to absorb free liquids in a non-hazardous waste whose only required treatment is solidification to pass the paint filter test).

MDWTP/WDI will supply the receiving disposal facility or transship facility with LDR notifications and certifications for each required shipment , and will include appropriate analytical records if necessary to support the certification. The notifications and certifications will contain the information required under R 299.9627 and 40 CFR §268.7. Any additional information requested will be provided to the licensed TSDF.

A3.A.3(a) Spent Solvent and Dioxin Wastes
[R 299.9627 and 40 CFR §§264.13(a)(1), 268.7, 268.30, 268.31, 268.40, 268.41, 268.42, and 268.43]

Spent solvent wastes (F001-F005) are accepted at the facility. Generator process knowledge, analysis and/or information provided on the waste characterization form will be used to determine the presence of spent solvent wastes (F001-F005). The LDR notification will provide additional information regarding the appropriate treatment standards for the waste and whether it has already been treated to the appropriate standards.

A3.A.3(b) Listed Wastes
[R 299.9627, R 299.9213, and R 299.9214 and 40 CFR §§264.13(a)(1), 268.7, 268.33, 268.34, 268.35, 268.36, 268.39, 268.40, 268.41, 268.42, and 268.43]

Generator process knowledge, analysis, and/or information provided on the waste characterization form will be used to determine whether listed waste meets the applicable treatment standards or to demonstrate that the waste has been treated by the appropriate specified treatment technology. In accordance with R 299.9627 and 40 CFR §268.41, where treatment standards are based on concentrations in the waste extract, the toxicity characteristic leaching procedure (TCLP) will be used, if required in accordance with Method 1311, to determine if wastes meet treatment standards. Compliance will be documented on the waste material profile report and LDR notification.

A3.A.3(c) Characteristic Wastes
[R 299.9627, R 299.9208, and R 299.9212 and 40 CFR §§261.3(d)(1), 264.13(a)(1), 268.7, 268.9, 268.37, 268.40, 268.41, 268.42, 268.43 and Part 268, Appendix I and Appendix IX]

Generator process knowledge, analysis, and/or information provided on the waste characterization form will be used to determine whether characteristic waste meets the applicable treatment standards or to demonstrate that the waste has been treated by the appropriate specified treatment technology. In accordance with R 299.9627 and 40 CFR §268.41, where treatment standards are based on concentrations in the waste extract, the toxicity characteristic leaching procedure (TCLP) will be used, if required in accordance with Method 1311, to determine if wastes meet treatment standards.

If after treatment a hazardous waste displays a characteristic for the first time, the characteristic waste code will be added to the LDR notification and facility records. Wastes will be retreated, as appropriate, to meet the applicable characteristic treatment standards of 40 CFR §§268.40 and 268.48 or an alternative treatment standard specified in §§268.44-49, prior to land disposal. In addition, the Generator process knowledge will be used to identify the underlying hazardous constituents that are expected to be present in the waste. Generator process knowledge will be documented on the waste material profile report and LDR notification.

Generators of characteristic hazardous wastes are required to identify any underlying hazardous constituents reasonably expected to be present above their concentration-based levels (see Table UTS in §268.48) at the point of generation. This means that, for metal constituents that did not qualify as UHCs in the original waste but are concentrated to above UTS levels during treatment, MDWTP is not required to treat those metal constituents to meet UTS levels. If, however, the residual exhibits a characteristic due to a new property (e.g., concentrated metals now exceed one or more of the constituent-specific Toxicity Characteristic thresholds), residuals exiting the treatment unit would be considered a new point of generation, MDWTP would be considered to be the generator, and the full suite of UHCs must be reconsidered and identified, as appropriate (Federal Register 64:90 (11 May 1999) p. 25411 for additional clarification).

A3.A.3(d) Radioactive Mixed Waste
[R 299.9627 and 40 CFR §§268.7, 268.35(c), 268.35(d), 268.36, and 268.42(d)]

☒ The facility does not accept low level radioactive mixed waste.

However, the facility may receive radioactive materials, as defined in Attachment A2 Chemical and Physical Properties, that are themselves, or mixed with other, non-hazardous or hazardous wastes. Radiological parameters will meet land disposal requirements in order to be directly placed into WDI. MDWTP may combine radioactive materials with non-radioactive materials in order to meet the direct landfill requirements in attachment A2.

A3.A.3(e) Laboratory Packs
[R 299.9627 and 40 CFR §§268.7and 268.42(c) and Part 268, Appendix IV and Appendix V]

☒ The laboratory packs accepted at the facility are not land disposed without meeting applicable Subpart D treatment standards.

Lab pack waste received or generated with an LDR requesting lab pack alternatives to Subpart D treatment standards, will be transshipped offsite for incineration in accordance with 268.42(c). Lab packs received with the appropriate LDR designation indicating the compliance status of Subpart D treatment standards may be received and processed to applicable 268.40 treatment standards.

A3.A.3(f) Contaminated Debris
[R 299.9627 and 40 CFR §§268.2(g), 268.7, 268.9, 268.36, 268.45, and 270.13(n)]

☒ The hazardous debris categories and the contaminant categories associated with the types of hazardous debris accepted at the facility are presented in Table A3.A.3.

Hazardous debris accepted at the facility will be treated using one of the technologies identified in Table 1 of 40 CFR §268.45.

Debris as defined in 40 CFR 260.10 may be treated prior to land disposal utilizing the immobilization technologies defined in 40 CFR 268.45 in order to meet the alternative treatment standards for hazardous debris provided in 40 CFR 268.45.
Per 40 CFR 268.45, there are no contaminant restrictions for the immobilization technologies nor are there limitations on the type of debris that that may be treated by the immobilization technologies. If immobilization is used in a treatment train, it will be the last treatment technology applied. Hazardous debris will be treated for each contaminant subject to treatment as specified by 40 CFR 268.45(b) for toxicity characteristic debris and debris contaminated with listed wastes.

When macroencapsulation is the applied immobilization technology, treatment may be performed in the MDWTP treatment tanks or any of the container storage areas.

MDWTP does not knowingly accept hazardous debris deliberately mixed with non-debris hazardous waste in order to change the treatment classification.

A3.A.3(g) Waste Mixtures and Wastes with Overlapping Requirements
[R 299.9627 and 40 CFR §§264.13(a), 268.7, 268.41(b), 268.43(b), and 268.45(a)]

Generator process knowledge, analysis, and/or information provided on the waste characterization form will be used to demonstrate that those waste mixtures and wastes with multiple codes are properly characterized. Each waste that has more than one characteristic will be identified with a number for each characteristic. Waste identified as meeting a listing and exhibiting a characteristic will be primarily identified with the listed waste code for the purpose of manifesting, etc.

A3.A.3(h) Dilution and Aggregation of Wastes
[R 299.9627 and 40 CFR §268.3]

Listed wastes, if destined for land disposal, may not be diluted from the point of generation to the point of land disposal. Characteristic wastes may only be diluted if, (1) the waste is managed in a Clean Water Act (CWA)/CWA-equivalent surface unit or a Class I Safe Drinking Water Act injection well, (2) the waste has a concentration-based treatment standard or is treated using the DEACT technology-based treatment standard, and (3) the waste is not a D003 reactive waste.

The facility may not dilute or partially treat a listed waste to change its treatability category (i.e., from nonwastewater to wastewater), in order to comply with different treatment standards.

IMDWTP may combine different wastes for like treatment (e.g., a D007 waste may be combined with a D008 waste for stabilization.

A3.B CAPTIVE FACILITY

☒ *MDWTP and WDI* generate waste on site. *MDWTP and WDI* also receive waste generated off site. Waste screening procedures for receiving wastes from off-site generators is discussed in Section A3.A.

The hazardous waste treated will be properly characterized using generator knowledge or chemical analysis to ensure that it is properly managed within the facility.

As previously stated all analysis performed pursuant to this application will be consistent with the QA/QC Plan maintained at the facility. All samples for the purpose of waste characterization will be collected, transported, stored, and disposed by trained and qualified individuals in accordance with the QA/QC Plan.

In accordance with R 299.9609 and 40 CFR §264.73 and Part 264, Appendix I, *MDWTP and WDI* will retain all records and results of waste determinations performed as specified in 40 CFR §§264.13, 264.17, 264.314, 264.1034, 24.1063, 264.1083, 268.4(a), and 268.7 in the facility operating record until closure of the facility.

A3.B.1 SELECTION OF WASTE ANALYSIS PARAMETERS

[R 299.9605(1) and 40 CFR §264.13(B)(1)]

MDWTP and WDI will select waste analysis parameters to confirm the identity of waste streams generated at the facility. The selection of waste analysis parameters will be based on knowledge of the raw material, analytical results, and physical and chemical processes that produce the waste stream. Knowledge of the process and analytical testing will be used to determine if the hazardous wastes exhibit one or more characteristics to: (1) ensure compliance with LDR regulations and (2) provide waste compatibility information to determine appropriate waste storage.

Table A3.A.1 lists the waste analysis procedures, including the waste analysis parameters for each hazardous waste, the rationale for the selection of these parameters, test methods that will be used to test for these parameters, the appropriate reference, the frequency of waste characterization, and the rationale for frequency. The sampling method that will be used to obtain a representative sample of the wastes to be analyzed, the sampling equipment to use, and rationale to use are presented in Table A3.A.2.

A3.B.2 ADDITIONAL WASTE ANALYSIS REQUIREMENTS

[R 299.9605(1) and R 299.9504(1)(c) and 40 CFR §264.13(b)(6) and (c)(3)]

MDWTP/WDI will review the waste characterization information to ensure that the facility is authorized to manage the waste in compliance with the same criteria outlined in A3.A.1(c)

Sampling and analytical methods provided in Table A3.A1 are utilized for onsite generated waste as well as off-site waste.

A3.B.3 PROCEDURES TO ENSURE COMPLIANCE WITH LDRs REQUIREMENTS
[R 299.9627 and 40 CFR, Part 268]

In accordance with the LDR regulations, all wastes shipped off site will be analyzed to determine whether the waste meets the applicable LDR treatment standards specified in R 299.9627 and 40 CFR §268.41-43. All analytical results will be maintained in the facility operating record until closure of the facility. Wastes that are determined through analysis to meet treatment standards as specified in R 299.9627 and 40 CFR §§268.41-43 will be land disposed.

MDWTP and WDI will supply LDR notifications and certification, including appropriate analytical records or documentation of generator knowledge to support the certification, to the receiving facility with each shipment of waste. The notifications and certifications will contain the information required under R 299.9627 and 40 CFR §268.7.

A3.B.3(a) Spent Solvent and Dioxin Wastes
[R 299.9627 and 40 CFR §§264.13(a)(1), 268.7, 268.30, 268.31, 268.40, 268.41, 268.42, and 268.43]

Spent solvent wastes (F001-F005) are accepted at the facility. Generator process knowledge, analysis and/or information provided on the waste characterization form will be used to determine the presence of spent solvent wastes (F001-F005). The LDR notification will provide additional information regarding the appropriate treatment standards for the waste and whether it has already been treated to the appropriate standards.

A3.B.3(b) Listed Wastes
[R 299.9627, R 299.9213, and R 299.9214 and 40 CFR, Sections 264.13(a)(1), 268.7, 268.33, 268.34, 268.35, 268.36, 268.39, 268.40, 268.41, 268.42, and 268.43]

Generator process knowledge, analysis and/or information provided on the waste characterization form will be used to determine whether listed waste meets the applicable treatment standards or to demonstrate that the waste has been treated by the appropriate specified treatment technology. In accordance with R 299.9627 and 40 CFR §268.41, where treatment standards are based on concentrations in the waste extract, the facility will use toxicity characteristic leaching procedures (TCLP) in accordance with Method 1311, to determine if wastes meet treatment standards. Compliance will be documented on the waste material profile report and LDR notification.

Generator process knowledge will be documented on the waste material profile report and LDR notification.

A3.B.3(c) Characteristic Wastes
[R 299.9627, R 299.9208, and R 299.9212 and 40 CFR §261.3(d)(1), 264.13(a)(1), 268.7, 268.9, 268.37, 268.40, 268.41, 268.42, and 268.43 and Part 268, Appendix I and Appendix IX]

Generator process knowledge analysis and/or information provided on the waste characterization form will be used to determine whether characteristic wastes meet the applicable treatment standards or to demonstrate that the waste has been treated by the appropriate specified treatment technology. In accordance with R 299.9627 and 40 CFR §268.41, where treatment standards are based on concentrations in the waste extract, the facility will determine if wastes meet treatment standards.

Characteristic D008 lead nonwastewaters and D004 arsenic nonwastewaters will be analyzed using TCLP to determine compliance with treatment standards. If after treatment a hazardous waste displays a

characteristic for the first time, the characteristic waste code will be added to the LDR notification and facility records. Wastes will be retreated, as appropriate, to meet the characteristic treatment standard prior to land disposal. In addition, the generator process knowledge will be used to identify the underlying hazardous constituents that are expected to be present in D001 and D002 wastes. The generator process knowledge will be documented on the waste material profile report and LDR notification.

A3.B.3(d) Radioactive Mixed Waste
[R 299.9627 and 40 CFR §§268.7, 268.35(c), 268.35(d), 268.36, and 268.42(d)]

☒ The facility does not generate radioactive mixed waste.

See A3.A.3(d) Radioactive Mixed Waste.

A3.B.3(e) Laboratory Packs
[R 299.9627 and 40 CFR §268.7, 268.42(c) and Part 268, Appendix IV and Appendix V]

☒ The laboratory packs generated at the facility are not land disposed without meeting applicable Subpart D treatment standards

Lab pack waste generated with an LDR requesting lab pack alternatives to Subpart D treatment standards, will be transshipped offsite for incineration in accordance with 268.42(c). Lab packs received with the appropriate LDR designation indicating the compliance status of Subpart D treatment standards may be received processed to applicable 268.40 treatment standards.

A3.B.3(f) Contaminated Debris
[R 299.9627 and 40 CFR §§268.2(g), 268.7, 268.9, 268.36, 268.45, and 270.13(n)]

☒ The hazardous debris categories and the contaminant categories associated with the type of hazardous debris generated at the facility are presented in Table A3.B.3.

Hazardous debris generated at the facility that exhibits the characteristics of ignitability, corrosivity, or reactivity will be treated using one of the extraction, destruction, or immobilization technologies identified in Table 1 of 40 CFR §268.45.

See A3.A.3(g) Contaminated Debris

A3.B.3(g) Waste Mixtures and Wastes with Overlapping Requirements
[R 299.9627 and 40 CFR §§264.13(a), 268.7, 268.41(b), 268.43(b), and 268.45(a)]

Generator process information and analytical data will be used to demonstrate that waste mixtures and wastes carrying multiple codes are properly characterized. Wastes that carry more than one characteristic will be identified with a number for each characteristic.

A3.B.3(h) Dilution and Aggregation of Wastes
[R 299.9627 and 40 CFR §268.3]

Listed wastes, if destined for land disposal, may not be diluted from the point of generation to the point of land disposal. Characteristic wastes may only be diluted if (1) the waste is managed in a CWA/CWA-

equivalent surface unit or a Class I Safe Drinking Water Act injection well, (2) the waste has a concentration-based treatment standard or is treated using the DEACT technology-based treatment standard, and (3) the waste is not a D003 reactive waste.

The facility may not dilute or partially treat a listed waste to change its treatability category (i.e., from nonwastewater to wastewater), in order to comply with different treatment standards. If the wastes are all legitimately amenable to the same type of treatment to be performed, the facility may aggregate wastes for treatment.

A3.C NOTIFICATION, CERTIFICATION, AND RECORDKEEPING REQUIREMENTS

[R 299.9627 and R 299.9609 and 40 CFR §§264.73, 268.7, and 268.9(d)]

MDWTP/WDI will perform the following procedures for preparing and/or maintaining applicable notifications and certifications to comply with LDRs:

A3.C.1 RETENTION OF GENERATOR NOTICES AND CERTIFICATIONS

[R 299.9627 and 40 CFR §268.7(a)(7)]

MDWTP/WDI will retain a copy of all notices, certifications, demonstrations, data, and other documentation associated with compliance to LDRs as outlined in A3.C.6

The following notices and certifications submitted by the initial generator of the waste will be reviewed and maintained:

- Notices of restricted wastes not meeting treatment standards or exceeding levels specified in RCRA §3004(d), including the information listed in R 299.9627 and 40 CFR §268.7(a)(1).
- Notices of restricted wastes meeting applicable treatment standards and prohibition levels, including the information in R 299.9627 and 40 CFR §268.7(a)(2).

A3.C.2 NOTIFICATION AND CERTIFICATION REQUIREMENTS FOR TREATMENT FACILITIES

[R 299.9627 and 40 CFR §268.7(b)]

The treatment facility will submit a notice and certification to the land disposal facility with each shipment of restricted waste or treatment residue of a restricted waste. The notice will include the information specified in R 299.9627 and 40 CFR §§268.7(b)(4) and 268.7(b)(5).

If the waste or treatment residue will be further managed at a different treatment or storage facility, the facility will comply with the notice and certification requirements applicable to generators as specified in R 299.9627 and 40 CFR §268.7(b)(6).

If a significant manifest discrepancy is discovered (such as variation in one-piece count or misrepresentation of the type of waste or corrosive rather than flammable) that cannot be resolved with the generator or transporter within 15 days of receipt, facility personnel will submit to the Director and manifest processing division, a letter describing the discrepancy and all attempts to reconcile the discrepancy. The letter will include a copy of the discrepant manifest or shipping document.

A3.C.3 WASTE SHIPPED TO SUBTITLE C FACILITIES

[R 299.9627 and 40 CFR §§268.7(a) and 268.7(b)(6)]

☒ For restricted waste or waste treatment residues that will be further managed at a Subtitle C (hazardous waste management) facility, the facility will submit notifications and certifications in compliance with the notice and certification requirements applicable to generators under R 299.9627 and 40 CFR §268.7(a) and (b)(6).

A3.C.4 WASTE SHIPPED TO SUBTITLE D FACILITIES

[R 299.9627 and 40 CFR §§268.7(d) and 268.9(d)]

☒ If the facility may ship nonhazardous and decharacterized waste to a Subtitle D facility, the facility will submit a one-time notification and certification for characteristic wastes, or listed wastes that are listed only because they exhibit a characteristic, that have been treated to remove the hazardous characteristic and are no longer considered hazardous. The facility will place a certification and all treatment records in the facility's file. The notification and certification will be updated if the process or operation generating the waste changes and/or if the Subtitle D facility receiving the waste changes.

A3.C.5 Recyclable Materials

[R 299.9627 and 40 CFR §268.7(b)(7)]

☒ For wastes that are recyclable materials used in a manner constituting disposal, in accordance with R 299.9206 and 40 CFR §266.20(b), the facility will submit a notice and certification to the Director, or delegated representative, with each shipment of waste describing the waste and applicable treatment standards and identifying the facility receiving the waste.

Recyclable materials may be stored and transshipped from MDWTP.

Materials from offsite sources that are beneficially reused by MDWTP for waste treatment (e.g., kiln dust, ferrous sulfate) alter the physical and/or chemical properties of the original materials such that the originally received material no longer exists and therefore does not qualify as land application. Thus such beneficially reused materials qualify as recycling and are not subject to RCRA waste management requirements.

A3.C.6 Record Keeping

[R 299.9608(4), R 299.9609, R 299.9610(3), and R 299.9627 and 40 CFR §§264.72, 264.73, 268.7(a)(5), 268.7(a)(6), 268(a)(7), and 268.7(d)]

MDWTP/WDI maintains a facility operating log in accordance with R 299.9609 and 40 CFR §264.73. Copies of all necessary notifications and certifications, as well as relevant inspection forms and monitoring data, are also maintained on file in hard copy form or electronically at the facility. Files The operating log is maintained as follows:

Maintained in the operating log in hard copy or electronic format for three years unless specified otherwise:

- Records and results of waste analyses and waste determinations performed for onsite waste characterization and LDR compliance.
- Summary reports and details of all incidents that require implementing the contingency plan.
- For off-site facilities, notices to generators.
- Records and results off inspections required by Attachment A5 Inspection Schedule.
- Waste minimization certification.
- LDR generator notices and TSDF certifications and demonstration, including notices of exclusion from the definition of hazardous waste, solid waste, or Subtitle C regulation required by 40 CFR 268.7 that
- Onsite generated waste LDR notice and certification and demonstration.
- Monitoring, testing or analytical data, and corrective action required as a result of a release.
- Foreign source notice
  Major manifest discrepancy notifications

Items kept in hard copy or electronic format until the closure of the facility include:

- A description and the quantity of each hazardous waste received, and the method(s) and date(s) of its treatment, storage, or disposal.
- For each day that waste is placed into the WDI landfill, a record showing the coordinates within which waste was placed.
- Ground water cleanup, monitoring, testing or analytical data, and corrective action required as a result of a release.
- Closure cost/postclosure cost estimate.
- Certifications of major changes to a tank system.

A3.C.7 REQUIRED NOTICE

[R 299.9605(1) and 40 CFR §264.12(a) and (b))]

The facility will notify the Hazardous Waste Division Chief in writing at least four weeks before the date the facility expects to receive hazardous waste from a foreign source. Notice of subsequent shipments of the same waste from the same foreign source is not required. When receiving such hazardous waste, the facility will comply with applicable treaties or other agreements entered into between the country in which the foreign source is located and the United States.

When the facility is to receive hazardous waste from an off-site source, the facility will inform the generator in writing that the facility has the appropriate license for and will accept the waste the generator is shipping. The facility will keep a copy of this written notice in the operating record as described in A3.C.6.

Table A3.A.1 Waste Analysis Procedures

**Alternative methods may be required on a case by case basis in order to properly analyze the waste

Screening Parameter	Rationale for Parameter: Waste Characterization	Pre-Approval	Preacceptance	LDR	Test Method	Reference	Frequency	Rationale for Frequency
							See Attachment A2 Chemical and Physical Properities for Waste Characterization and Pre-approval Frequency information	
Waste Code (onsite generated waste)	x				See metals, VOC, SVOC, ignitability, reactivity screening parameters.	See metals, VOC, SVOC, ignitability, reactivity screening parameters.	See Attachment A2	See Attachment A2
Land Disposal Restrictions (LDR)				x	See metals/mercury, VOC, SVOC, Pesticide, and Herbicide parameters.	See applicable parameter below	Each tank as needed	Wastes with concentration-based treatment standards must be evaluated to determine if applicable constituent concentration levels have been attained. This can be accomplished by either (1) testing the waste or (2) using knowledge.
Free Liquids	x	x	x	x	Paint Filter Liquids Test	SW846, 9095	As needed	Dependant on visual assessment
Ignitability	x	x	x		Flashpoint by Pensky-Martens or Setaflash	SW 846 1010A or SW 846 1020B	As needed	**Waste characterization:** D001 applicability. Dependent on match test **Preapproval**: Confirm profiled information **Preacceptance**: verify match test result
Ignitability-Match Test			x		Attempt to ignite gases or vapors emitting from waste	Internal Procedure	Each shipment	**Preacceptance**: Verification for proper storage and handling.
Reactivity		x	x		Water addition to waste and monitor for adverse reaction	Internal Procedure	Preapproval: As needed Preacceptance: Every shipment	**Preapproval**: Confirmation of profiled information **Preacceptance**: Verification for proper storage and handling.
Compatibility			x		Waste and reagents will be mixed together in a mock tank . Tank will be monitored for adverse reactions such as significant gas production and extreme heat.	Internal Procedure	Each stabilization/oxidation tank	To advert the potential for an adverse reaction.
Radioactivity			x		Shipments will be compared to backround radiation levels using in instrument capable of detecting gamma radiation	Internal Procedure	Each shipment	Verification of Waste characterization, confirmation that waste meets landfill disposal limits
Cyanide Screening		x	x		SW846 9014 coloring method reagents are added to a mixture of water and waste. In the presence of cyanide color change will occur.	Pyridine-barbituric acid colorimetry screening	Preapproval: See Attachment A2 Pre-acceptance: First shipment	**Preapproval**: Confirmation of profiled information **Preacceptance**: Waste acceptability
Cyanide	x	x	x	x	Total and Amenable Cyanide:Distillation; Cyanide in Waters and Extracts Using Trimetric and Manual Spectrophotometric Procedures	SW846 9010 and 9014	Pre-approval: As needed Preacceptance: As needed LDR: As needed	See LDR and Waste Characterization **Pre-approval**: Confirm Treatability **Preacceptance**: Confirm positive screening
PCB	x	x		x	PCBs by GC	SW846 8082	Pre-approval: See Attachment A2	See LDR and Waste Characterization **Preapproval**: Confirm profiled information
PCB Screen			x		Extraction and comparison to 1 point standard using GC	Internal Procedure	TSCA shipment incidental free liquids	**Preacceptance**: Confirm incidental liquids and generator knowledge
Metals/Mercury	x			x	Solid or liquid digestion procedure followed by analysis	SW846 6010, 245.7M	Waste Characterization: Attachment A2 LDR: As needed	See LDR and Waste Characterization
Hydrogen Sulfide Screening		x	x		Mix waste in cup with acid. Detect H2S gas with lead acetate paper or other appropriate device	Internal Procedure	Preapproval: As needed Pre-acceptance: First shipment	**Preapproval**: Confirmation of profiled information **Preacceptance**: Waste acceptability
pH	x		x		If not visually apparent after looking at pH paper, an electronic measurement will be made. Full Sw846 method used when characterizing waste	SW846 9040	Preacceptance: Each shipment	See Waste Characterization Preacceptance: Confirm profile values
Semivolatiles	x			x	Solid or liquid extraction procedure followed by analysis on GC	SW846 8270	Waste Characterization: Attachment A2 LDR: As needed	See LDR and Waste Characterization
Volatiles	x			x	Solid or liquid extraction procedure followed by analysis on GC	SW846 8260, 8015	Waste Characterization: Attachment A2 LDR: As needed	See LDR and Waste Characterization
Pesticides	x			x	Solid or liquid extraction procedure followed by analysis on GC	SW846 8081	Waste Characterization: Attachment A2 LDR: As needed	See LDR and Waste Characterization
Herbicides	x			x	Solid or liquid extraction procedure followed by analysis on GC	SW846 8151, 8270	Waste Characterization: Attachment A2 LDR: As needed	See LDR and Waste Characterization

Waste Characterization: Characterization of onsite generated waste
Preapproval: Evaluation prior to receiving waste
Preacceptance:Incoming waste evaluation at the time of receipt to determine acceptibility with permit conditions and handling procedures
Land Disposal Restriction (LDR):Verification applicable 40 CFR 268 LDRs are met or prohibited from land disposal

TABLE A3.A.2 REPRESENTATIVE SAMPLING PROCEDURES

Container Type or Material	Sampling Method[1]	Sampling Equipment	Rationale
Aqueous Waste	SW-846	Thieves Coliwasas	Chapter Nine of SW-846 Compendium: Sampling Plans
Solid, sludge, granular	SW-846	Auger Trier Scoops	

[1]The sampling method should demonstrate equivalence with the sampling methods described in 40 CFR, Part 261, Appendix I.

ATTACHMENT A3.C.1 DOCUMENTATION OF VARIATIONS ON TEST METHODS USED FOR WASTE ANALYSIS

For the purposes of waste characterization and LDR verification, MDI analyzes mercury in waste extracts using a modified version of USEPA 245.7 with QAQC procedures outlined by Method 7470A (SW-846): Mercury in Liquid Waste (Manual Cold-Vapor Technique. USEPA 245.7 was developed for wastewater and drinking water standards and is designed with lower detection and calibration levels than required by RCRA. As a result the parts per trillion (ppt) levels desired by the method have been modified to parts per billion (ppb) to comply with mercury's LDR concentration of 25 ppb. The low levels required by the method are achieved through handling procedures and reagent concentrations defined by the method. Instead reagent concentrations have been increased, and handling procedure defined in SW-846 are utilized.